CMCSS Math 3 Curriculum Guide

For the purpose of instruction teachers must remember that the end of the year TCAP will assess current Tennessee Diploma Project (TDP) standards, minus the SPIs which have been dropped (See box below). In addition, TCAP may include some items aligned to Common Core State Standards for the purpose of field testing.

The State of Tennessee has removed the following standards from the TCAP. These standards have been removed from the district pacing guide and should no longer be taught within the 3rd grade.

SPI 0306.1.1 Solve problems using a calendar.

SPI 0306.1.3 Determine the correct change from a transaction less than a dollar.

SPI 0306.1.6 Identify and use vocabulary to describe attributes of two- and three-dimensional shapes.

SPI 0306.1.8 Express answers clearly in verbal, numerical, or graphical (bar and picture) form, using units when appropriate.

SPI 0306.3.4 Describe or extend (including finding missing terms) geometric and numeric patterns.

SPI 0306.4.2 Determine if two figures are congruent based on size and shape.

SPI 0306.4.3 Identify the line of symmetry in a two-dimensional design or shape.

SPI 0306.5.3 Make predications based on various representations of data.

SPI 0306.2.1 Read and write numbers up to 10,000 in numerals and up to 1,000 in words.

SPI 0306.2.3 Convert between expanded and standard form with whole numbers to 10,000.

SPI 0306.2.4 Compare and order numbers up to 10,000 using the words less than, greater than, and equal to, and the symbols <, >, =.

SPI 0306.2.14 Add and subtract fractions with like denominators

SPI 0306.4.7 Solve problems requiring the addition and subtraction of length.

Common Core Standard Domains	
NBT - Number & Operations in Base Ten	CC - Counting and Cardinality (K Only)
OA - Operations and Algebraic Thinking	MD - Measurement and Data
NF - Number & Operations - Fractions	G - Geometry

Appropriate Common Core State Standards and Clusters are followed by one of the following symbols.

■ Major Clusters/Standards
□ Supporting Clusters/Standards
o Additional Clusters/Standards
FS Fluency Standard

The state has identified specific CCSS that must be taught. These 'mathematical focus standards' are in cells that are highlighted in green. Additional time in pacing has been given in units where highlighted mathematical focus standards are listed.

Common Core Focus Standards

Tennessee's transition to the CCSS Math (CCSSM) will continue with grades 3-8 in the 2012-2013 school year. Teachers will still teach the current TDP standards (minus the SPIs to be dropped from the TCAP). In addition, teachers will also be teaching the TNCore Focus Standards. These Focus Standards will allow teachers to focus where the Common Core focuses: on the essential knowledge and skills students need at each grade level in order to advance to the next level of mathematical understanding. Some of the Focus Standards will overlap with the TDP standards; however, as the instructional shifts and the Constructed Response Assessment items will prove, they call for a fundamentally different level of rigor and intensive focus.
Taken from: http://tncore.org/math.aspx

For Math 3 the focus clusters include the following focus standards:

3.OA.A.1, 3.OA.A.2, and 3.OA.A.4 - See Unit 4
3.OA.A.3 - See Units 4 and 5
3.OA.B.5 and 3.OA.B.6 - See Unit 4
3.MD.C.5 (a,b), 3.MD.C.6, and 3.MD.C.7 (a,b,c,d) - See Unit 5
3.NF.A.1, 3.NF.A.2 (a,b) and 3.NF.A.3 (a, b, c, d) - See Unit 6

Common Core Mathematical Practice Standards

The CCSS for Mathematical Practices are expected to be integrated into every mathematics lesson for all students grades K-12.

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Common Core State Standards, Fluency in Mathematics

Fluency is not meant to come at the expense of understanding but is an outcome of a progression of learning and sufficient thoughtful practice. It is important to provide the conceptual building blocks that develop understanding in tandem with skill along the way to fluency; the roots of this conceptual understanding often extend one or more grades earlier in the standards than the grade when fluency is finally expected. (PARCC MCF, v3.0, p. 4)

Wherever the word fluently appears in a content standard, the word means quickly and accurately. It means more or less the same as when someone is said to be fluent in a foreign language. To be fluent is to flow: Fluent isn't halting, stumbling, or reversing oneself. A key aspect of fluency in this sense is that it is not something that happens all at once in a single grade but requires attention to student understanding along the way. It is important to ensure that sufficient practice and extra support are provided at each grade to allow all students to meet the standards that call explicitly for fluency. (PARCC MCF, v3.0, p. 12)

The fluency expectations for Math 3 are:

3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. ■

3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. **o**

Bold print or Strikethroughs within the standards.
Bold print within any standard denotes that only that portion of the standard should be taught to mastery during that time period. Strikethroughs indicate portions of the standard that will be covered in another unit or concept.

Number of Teaching Days
The number of teaching days for each unit is provided. This serves as a guide to ensure that all standards are taught during the school year. All Benchmark assessments are based on this guide.

Resources
Current textbook adoption. Student Manipulatives Kit.

Questions or comments should be directed to Karl Bittinger or Jamie James, Math Curriculum Consulting Teachers
5/29/2013

These standards should be ongoing throughout the year. They should influence the methods and strategies selected for instruction. Although most of them would apply to each unit of the curriculum, only those with specific applications have been included within the units of the pacing guide. The expectation is that the others will be incorporated on a regular basis to promote best practices in mathematics instruction.
When working with Mathematical Process Standards the teacher should additionally consider the Common Core Mathematical Practice Standards.

Standard 1 – Mathematical Processes
GLE 0306.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution. ✓0306.1.4 Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, and observing patterns. ✓0306.1.5 Determine when and how to break a problem into simpler parts. ✓0306.1.6 Use estimation to check answers for reasonableness, and calculators to check for accuracy. ✓0306.1.11 Develop strategies for solving problems involving addition and subtraction of measurements.
GLE 0306.1.3 Develop independent reasoning to communicate mathematical ideas and derive algorithms and/or formulas. ✓0306.1.7 Make and investigate mathematical conjectures. ✓0306.1.8 Explain and justify answers on the basis of mathematical properties, structures, and relationships. ✓0306.1.12 Analyze and evaluate the mathematical thinking and strategies of others.
GLE 0306.1.4 Move flexibly between concrete and abstract representations of mathematical ideas in order to solve problems, model mathematical ideas, and communicate solution strategies.
GLE 0306.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas precisely. ✓0306.1.10 Use correct, clearly written and oral mathematical language to pose questions and communicate ideas.
GLE 0306.1.7 Recognize the historical development of mathematics, mathematics in context, and the connections between mathematics and the real world.
GLE 0306.1.8 Use technologies/manipulatives appropriately to develop understanding of mathematical algorithms, to facilitate problem solving, and to create accurate and reliable models of mathematical concepts. ✓0306.1.9 Use manipulatives to demonstrate that the commutative property holds for addition but not for subtraction.

CMCSS Curriculum Guide - Math 3
Unit Schedule

First Semester			
Unit	**Title**	**Dates**	**Days**
Unit 0	Organizational Days	August 7 - 9, 2013	2
Unit 1	Place Value/ Addition and Subtraction	August 12 - September 6, 2013	19
Unit 2	Measurement	September 9 - September 27, 2013	15
Unit 3	Data	September 30 - October 25, 2013	15
Unit 4	Multiplication and Division within 100	October 28 - December 20, 2013	35
Second Semester			
Unit	**Title**	**Dates**	**Days**
Unit 5	Relating Area to Multiplication	January 7 - February 7, 2014	23
Unit 6	Fractions	February 10 - March 7, 2014	19
Unit 7	Time	March 10 - March 21, 2014	10
Unit 8	Geometry	March 31 - April 17, 2014	14
Unit 9	TCAP Review/Testing	April 21 - May 2, 2014	10
Unit 10	Focus Cluster Reinforcement	May 5 - May 22, 2014	14

Unit 0: Organizational Days: 2 Days: August 7- August 9, 2013
This unit is for classroom introduction and beginning of the year activities.

Unit 1: Place Value/Addition and Subtraction: 19 Days: August 12- September 6, 2013

Place Value
SPI 0306.2.2 Identify the place value of numbers in the ten-thousands, thousands, hundreds, tens, and ones positions.

Addition and Subtraction
GLE 0306.3.2 Develop understanding that a letter or a symbol can represent an unknown quantity in a simple mathematical expression/equation. SPI 0306.3.2 Express mathematical relationships using number sentences/equations. ✓0306.3.5 Find unknowns in number sentences and problems involving addition, subtraction, ~~multiplication, or division~~. SPI 0306.2.9 Solve contextual problems involving the addition and subtraction (both with and without regrouping) of two- and three digit whole numbers. ✓0306.2.6 Solve a variety of addition and subtraction story problems including those with irrelevant information. SPI 0306.1.5 Represent problems mathematically using diagrams, numbers, and symbolic expressions.

Number Properties
GLE 0306.3.1 Develop meaning for and apply the **commutative, associative**, ~~and distributive~~ properties using various representations. SPI 0306.3.1 Verify a conclusion using algebraic properties. ✓ 0306.3.1 Show that **addition** ~~and multiplication~~ are *(is)* commutative operations. ✓0306.3.2 Show that **subtraction** ~~and division~~ are *(is)* not commutative operations. ✓ 0306.3.4 Solve problems using the **commutative, associative**, ~~and distributive~~ properties.

The following are additional Common Core State Standards.
Gaps should be addressed when pacing permits.
These standards will be fully implemented beginning August 2014.

Use place value understanding and properties of operations to perform multi-digit arithmetic.[1] o
3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. **o FS**
[1] A range of algorithms may be used.

Use place value understanding and properties of operations to perform multi-digit arithmetic.[1] o
3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100. **o**
[1] A range of algorithms may be used.

Unit 2: Measurement 15 Days September 9 - September 27, 2013

SPI 0306.1.7 Select appropriate units and tools to solve problems involving measures.
SPI 0306.4.5 Choose reasonable units of measure, estimate common measurements using benchmarks, and use appropriate tools to make measurements.
✓ 0306.4.5 Understand that all measurements require units.
✓ 0306.4.6 Recognize the use of fractions in liquid measures.
✓ 0306.4.7 Recognize the relationships among cups, pints, quarts, and gallons.
✓ 0306.4.8 Estimate and/or measure the capacity of a container.
✓ 0306.4.9 Measure weight to the nearest ounce or gram.
✓ 0306.4.10 Use reasonable units of length (i.e. kilometer, meter, centimeter; mile, yard, foot, inch) in estimates and measures.
✓ 0306.4.11 Know common equivalences for length (1 meter = 100 centimeters, 1 yard = 3 feet, 1 foot = 12 inches).
✓ 0306.4.12 Make and record measurements that use mixed units within the same system of measurement (such as feet and inches, meters and centimeters).
✓ 0306.4.13 Use common abbreviations: km, m, cm, in, ft, yd, mi.
SPI 0306.4.6 Measure length to the nearest centimeter or half inch.

The following are additional Common Core State Standards.
Gaps should be addressed when pacing permits.
These standards will be fully implemented beginning August 2014.

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[1] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[2] ■

(✓ 0306.4.8 Estimate and/or measure the capacity of a container.)

[1] Excludes compound units such as cm3 and finding the geometric volume of a container.

[2] Excludes multiplicative comparison problems (problems involving notions of “times as much”; see Glossary, Table 2).

3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters. □

Unit 3: Data 15 Days September 30 - October 25, 2013

GLE 0306.5.1 Organize, display, and analyze data using various representations to solve problems.

✓ 0306.5.1 Collect and organize data using observations, surveys, and experiments.

✓ 0306.5.2 Construct a frequency table, bar graph, pictograph, or line plot of collected data.

SPI 0306.5.1 Interpret a frequency table, bar graph, pictograph, or line plot.

✓ 0306.5.3 Compare and interpret different representations of the same data.

SPI 0306.5.2 Solve problems in which data is represented in tables or graphs.

✓ 0306.5.4 Solve problems using data from frequency tables, bar graphs, pictographs, or line plots.

Patterns

GLE 0306.3.3 Describe and analyze patterns and relationships in contexts.

✓ 0306.3.6 Analyze patterns in words, tables, and graphs to draw conclusions.

✓ 0306.3.8Analyze patterns in quantitative change resulting from computation.

The following are additional Common Core State Standards.
Gaps should be addressed when pacing permits.
These standards will be fully implemented beginning August 2014.

Represent and interpret data. ◘

3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets. ◘

Unit 4: Multiplication and Division within 100: 35 Days October 28 - December 20, 2013
Represent and solve problems involving multiplication and division. ■
3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5 × 7. ■
3.OA.A.1 fully addresses multiplication in ✓ 0306.2.9

3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8. ■
3.OA.A.1 fully addresses multiplication in ✓ 0306.2.9

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1] ■
3.OA.A.3 fully addresses SPI 0306.2.5, ✓ 0306.2.7, and GLE 0306.2.4

3.OA. A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ? ■
3.OA.A.4 fully addresses SPI 0306.3.3

Understand properties of multiplication and the relationship between multiplication and division. ■
3.OA.B.5 Apply properties of operations as strategies to multiply and divide.[2] Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.) ■
3.OA.B.5 fully addresses ✓ 0306.3.3 and ✓ 0306.3.4

3.OA.B.6 Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8. ■
SPI 0306.2.6 Recall basic multiplication facts through 10 times10 and the related division facts.

SPI 0306.3.2 Express mathematical relationships using number sentences/equations √ 0306.3.5 Find unknowns in number sentences and problems involving addition, subtraction, multiplication, or division.

SPI 0306.2.7 Compute multiplication problems that involve multiples of ten using basic number facts.

✓ 0306.2.3 Use parentheses to indicate grouping. ✓ 0306.2.8 Represent division using various representations such as successive subtraction, the number of equal jumps, partitioning, and sharing.

GLE 0306.3.1 Develop meaning for and apply the commutative, associative, and distributive properties using various representations. SPI 0306.3.1 Verify a conclusion using algebraic properties. ✓ 0306.3.1 Show that addition and multiplication are commutative operations. ✓ 0306.3.2 Show that subtraction and division are not commutative operations.

The following are additional Common Core State Standards.
Gaps should be addressed when pacing permits.
These standards will be fully implemented beginning August 2014.

Multiply and divide within 100. ■
3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. ■ **FS**
3.OA.A.1 fully addresses multiplication in ✓ 0306.2.9 3.OA.A.1 fully addresses GLE 0306.2.2, GLE 0306.2.3, and SPI 0306.2.8

Solve problems involving the four operations, and identify and explain patterns in arithmetic. ■
3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.[3] ■
3.OA.A.1 fully addresses GLE 0306.3.2

3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends. ■

[1] See Glossary, Table 2.

[2] Students need not use formal terms for these properties.

[3] This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order.

Use place value understanding and properties of operations to perform multi-digit arithmetic.[1] o
3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations. **o**

TABLE 2. Common multiplication and division situations.[3]

	Unknown Product	Group Size Unknown ("How many in each group?" Division)	Number of Groups Unknown ("How many groups?" Division)
	3 × 6 = ?	3 × ? = 18, and 18 ÷ 3 = ?	? × 6 = 18, and 18 ÷ 6 = ?
Equal Groups	There are 3 bags with 6 plums in each bag. How many plums are there in all? *Measurement example.* You need 3 lengths of string, each 6 inches long. How much string will you need altogether?	If 18 plums are shared equally into 3 bags, then how many plums will be in each bag? *Measurement example.* You have 18 inches of string, which you will cut into 3 equal pieces. How long will each piece of string be?	If 18 plums are to be packed 6 to a bag, then how many bags are needed? *Measurement example.* You have 18 inches of string, which you will cut into pieces that are 6 inches long. How many pieces of string will you have?
Arrays,[4] Area[5]	There are 3 rows of apples with 6 apples in each row. How many apples are there? *Area example.* What is the area of a 3 cm by 6 cm rectangle?	If 18 apples are arranged into 3 equal rows, how many apples will be in each row? *Area example.* A rectangle has area 18 square centimeters. If one side is 3 cm long, how long is a side next to it?	If 18 apples are arranged into equal rows of 6 apples, how many rows will there be? *Area example.* A rectangle has area 18 square centimeters. If one side is 6 cm long, how long is a side next to it?
Compare	A blue hat costs $6. A red hat costs 3 times as much as the blue hat. How much does the red hat cost? *Measurement example.* A rubber band is 6 cm long. How long will the rubber band be when it is stretched to be 3 times as long?	A red hat costs $18 and that is 3 times as much as a blue hat costs. How much does a blue hat cost? *Measurement example.* A rubber band is stretched to be 18 cm long and that is 3 times as long as it was at first. How long was the rubber band at first?	A red hat costs $18 and a blue hat costs $6. How many times as much does the red hat cost as the blue hat? *Measurement example.* A rubber band was 6 cm long at first. Now it is stretched to be 18 cm long. How many times as long is the rubber band now as it was at first?
General	$a \times b = ?$	$a \times ? = p$, and $p \div a = ?$	$? \times b = p$, and $p \div b = ?$

[4]The language in the array examples shows the easiest form of array problems. A harder form is to use the terms rows and columns: The apples in the grocery window are in 3 rows and 6 columns. How many apples are in there? Both forms are valuable.
[5]Area involves arrays of squares that have been pushed together so that there are no gaps or overlaps, so array problems include these especially important measurement situations.

Unit 5: Relating Area to Multiplication 23 Days January 7 - February 7, 2014

It is significant to notice that there is no mention of a formula for area in this standard. Third grade students need numerous experiences with manipulatives such as tiles and grids to understand that area is a measurement that indicates the number of square tiles required to completely cover a space. It is also important to note that this standard only refers to finding the area of rectangles. Students may use what they know about arrays to discover that they can use multiplication to find the area of rectangles. Teachers should engage students in rich discussions about strategies to find area without having to count individual tiles and the ability to add the areas of adjacent rectangles (www.readtennessee.org).

Geometric measurement: understand concepts of area and relate area to multiplication and to addition. ■
3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement. ■
3.MD.C.5a A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area. ■
3.MD.C.5b A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units. ■
3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units). ■
3.MD.C.7 Relate area to the operations of multiplication and addition. ■
3.MD.C.7a Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. ■
3.MD.C.7b Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. ■
3.MD.C.7c Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and b + c is the sum of a × b and a × c. Use area models to represent the distributive property in mathematical reasoning. ■
3.MD.C.7d Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. ■

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and **measurement quantities**, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. ■

For examples of measurement quantities in word problems, see Table 2 of the Common Core State Standards for Mathematics glossary.

Unit 6: Fractions 19 Days February 10 - March 7, 2014
Develop understanding of fractions as numbers. ■
3.NF.A.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b. ■
3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram. ■
3.NF.A.2a Represent a fraction 1/b on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size 1/b and that the endpoint of the part based at 0 locates the number 1/b on the number line. ■
3.NF.A.2b Represent a fraction a/b on a number line diagram by marking off a lengths 1/b from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line. ■
3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. ■
This cluster fully addresses GLE 0306.2.5

3.NF.A.3a Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. ■
3.NF.A.3b Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model. ■
3.NF.A.3c Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram. ■
3.NF.A.3d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model. ■
This cluster fully addresses SPI 0306.2.10

SPI 0306.1.4 Match the spoken, written, concrete, and pictorial representations of fractions with denominators up to ten. SPI 0306.1.5 Represent problems mathematically using diagrams, numbers, and symbolic expressions.
SPI 0306.2.11 Recognize and use different interpretations of fractions. ✓ 0306.2.11 Identify fractions as parts of whole units, as parts of sets, as locations on number lines, and as division of two whole numbers. ✓ 0306.2.13 Understand that when a whole is divided into equal parts to create unit fractions, the sum of all the parts adds up to one.

SPI 0306.2.12 Name fractions in various contexts that are less than, equal to, or greater than one.
SPI 0306.2.13 Recognize, compare, and order fractions (benchmark fractions, common numerators, or common denominators). ✓ 0306.2.10 Understand that symbols such as ½, 1/3, and ¼ represent numbers called unit fractions. ✓ 0306.2.12 Compare fractions using drawings, concrete objects, and benchmark fractions.

The following are additional Common Core State Standards.
Gaps should be addressed when pacing permits.
These standards will be fully implemented beginning August 2014.

Reason with shapes and their attributes. ◻
3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape. ◻
[1] Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8. ■

For all 3.NF standards: Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, and 8. **(For common core not TCAP)**

Unit 7: Time 10 Days March 10 - March 21, 2014

Solve problems involving measurement and estimation. ■
3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. ■

Unit 8: Geometry 14 Days March 31 - April 17, 2014

Reason with shapes and their attributes. ◘
3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. ◘
✓0306.4.2 Classify polygons according to the number of their sides and angles.

Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. o
3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. **o**
GLE 0306.4.1 Describe, compare, and analyze properties of polygons. SPI 0306.4.1 Recognize polygons and be able to identify examples based on geometric definitions. ✓ 0306.4.1 Describe properties of plane figures (such as circles, triangles, squares and rectangles) and solid shapes (such as spheres, cubes and cylinders). ✓ 0306.4.3 Classify lines and segments as parallel, perpendicular, or intersecting. GLE 0306.4.3 Understand and use attributes of 2- and 3-dimensional figures to solve problems.

Unit 9: TCAP REVIEW/TESTING 10 Days April 21 - May 2, 2014

_____ REVIEW FOR TCAP TESTING

April 28 - May 2, 2014 TCAP TESTING

CONSTRUCTED RESPONSE ASSESSMENT 3: _____

Unit 10: Focus cluster reinforcement	**14 Days**	**May 5 - May 22, 2014**

Time during this unit should be devoted to utilizing performance and instructional tasks related to the four focus clusters from Common Core State Standards. These clusters are:

•Represent and solve problems involving multiplication and division

•Understand properties of multiplication and the relationship between multiplication and division

•Develop understanding of fractions as numbers

•Geometric measurement: Understand concepts of area and relate area to multiplication and to addition.